

DN A01008A US
September 30, 2004

Mail Stop Amendment

Attachment A:

Declaration of Willie Lau under 37 C.F.R. § 1.132

DN A01008A US
September 27, 2004

Mail Stop Non-Fee Amendment

Attachment A:

Declaration of Willie Lau under 37 C.F.R. § 1.132

I, Willie Lau, of 837 Warren Road, Lower Gwynedd, PA 19002 am a Senior Research Fellow employed by Rohm and Haas Company. Born in Hong Kong, I received a B.S. in Chemistry from the University of Nebraska, Lincoln, Nebraska, in 1974. I then received an M.S. in Nuclear Chemistry from San Jose State University, San Jose, California, in 1977, and a Ph.D. in Physical Organic Chemistry from Indiana University, Bloomington, Indiana (advisor: Professor J. Kochi), in 1982. I was a post-doctoral fellow at Indiana University in 1983.

At the end of 1983, extending into 1984, I was a visiting professor at the University of Houston, Houston, Texas, joining Rohm and Haas Company in 1984. During the twenty years spanning 1984 to present, I have advanced from Senior Scientist (1984-1996) to Research Fellow (1997-2001) to Senior Research Fellow (2001-present), twice receiving the highest award Rohm and Haas Company gives for scientific achievement, the Otto Haas Award (1988; 1995). I have more than twenty patents, and have authored more than thirty publications in the open literature.

I have been a researcher in the following Rohm and Haas research departments / groups:

1984-1990 Polymers and Resins Synthesis

- Emulsion polymerization for coatings and construction products
- Vinyl acetate polymerization – develop VA/Acrylic hybrid
- Ethylene/vinyl acetate polymerization (High pressure polymerization)

DN A01008A US
September 27, 2004

Mail Stop Non-Fee Amendment

- Develop high film build VA binder by Alkali Swellable Polymers
- ESR study of emulsion polymerization kinetics

1990-1998 Group leader of Rheology Modifier synthesis

PRODUCT DEVELOPMENT

- Develop solvent free rheology modifier
- Develop high film build modifier
- Develop HASE thickeners
- Trouble shoot and resolve syneresis problem modifier
- Quality control of HASE thickeners
- FDA compliance of HASE with radio-labeling
- Designed rheology – HASE blending

1998- Present Exploratory (Emerging Technologies) –team leader

- Lipomers as technology platform
- Controlled free radical polymerization – Nitroxide, ATRP, RAFT, CCT
- Controlled structure polymers – graft copolymers by emulsion polymerization derived from emulsion based synthesis of macromonomers
- Transition metal polymerization catalyst – Caltech (Grubbs)
- China networking and collaboration

The copolymer composition claimed in currently amended claim 1 of this response is repeated here for the sake of clarity (bold emphasis added):

1(currently amended): A copolymer composition comprising water insoluble graft copolymer particles, wherein the graft copolymer particles comprise:

- (a) from 2 weight percent to 90 weight percent of macromonomer, as polymerized units, based on the total weight of the copolymer, wherein:
 - (i) the macromonomer is water insoluble and comprises from 10 to 1000 polymerized units of at least one first ethylenically unsaturated monomer, no polymerized mercapto-olefin compounds, and less than 5 weight percent polymerized acid-containing monomer; and
 - (ii) the macromonomer is a macromonomer prepared by aqueous based

DN A01008A US
September 27, 2004

Mail Stop Non-Fee Amendment

polymerization; and

(iii) said macromonomer has a molecular weight distribution such that its ratio of Mw/Mn is at least 1.25, wherein said Mw is the weight average molecular weight of the macromonomer and said Mn is the number average molecular weight of said macromonomer; and

(b) from 10 weight percent to 98 weight percent of polymerized units of at least one second ethylenically unsaturated monomer, based on the total weight of the copolymer.

At issue in the rejection of claims 1-13 over Schultz *et al.* (US 3,862,077) is whether there exists a distinction between the molecular weight distribution (Mw/Mn) of the present claimed invention and that disclosed in '077 (i.e., "not substantially above about 1.1"). I declare that the molecular weight distribution (MWD defined as Mw/Mn) of the macromonomer of the claimed invention, see amended claim 1, is at least 1.25. It is my experience and observation over years of synthesizing macromonomers by techniques also claimed in the present invention (see original claim 16) and disclosed in the specification at, for example, page 25, line 13 to page 27, line 2, that these macromonomers have MWD values of at least 1.25. For example, footnotes 7 and 8 of Table 6 (page 55) of the present patent application reveal Mw/Mn values of 1.42 (= 5,400 / 3,800) and 1.49 (=16,700 / 11,200), respectively, for graft segments (i.e., polymerized units of macromonomer).

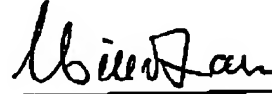
Even though not recited in detail in the present application, it is further true that a person of reasonable skill in the art would readily concur with my expert observation and knowledge that the MWD of values for the present invention are at least 1.25.

I, Willie Lau, further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under the United States Code

DN A01008A US
September 27, 2004

Mail Stop Non-Fee Amendment

and such willful statements may jeopardize the validity of any patent
application or patent issued thereon.



Willie Lau

9/27/2004

date